Journal of Innovative Engineering and Research (JIER)
Vol.- 3,Issue - 1, April 2020, pp. 5-6 (2 pages)

Design of Chatting Application Based on Android Bluetooth with Hotspot Feature

APARNA KHARE[1], AKSHAY GUPTA[2]

[1,2]*Department of Computer Science & Engineering, Dr. A. P. J. Abdul Kalam University, Indore*
Corresponding Author Email: aparnakhare.khare@gmail.com

Abstract— Bluetooth provides the communication on low-cost, low-power basis. Wireless communication can also be done with the help of Bluetooth technology in a mobile communication. Short-range establishment of two-way communication has occurred without any support of the network. Bluetooth is integrated into Android which is a mainstream Smartphone platform as a mean of mobile communication. Nowadays Android becomes the latest technology in the Smartphone's which provides the open sourcing and powerful application API. Thus we design a chatting application based on android Bluetooth which establishes a connection between smart phones using Bluetooth and then messages are exchanged between them. Wifi hotspots are very common now days. Laptops and PDAs use these hotspots to access the internet as these devices have Wifi facility built into it. But mobile phones do not have Wifi facility in them. Nokia is releasing some models with Wifi, but still those models are costly. But lower end models also come with Bluetooth now. So its a better idea to create a Bluetooth hotspot where Bluetooth mobiles can access the internet.

Index Terms— Component, Android, Bluetooth, Wireless Communicati, chat, Hotspot.

I. INTRODUCTION

With this technology mobile phones need not have a GPRS connection or even a SIM card in it to access the internet. This project has two parts. A client application and a server application. The server application runs in a normal PC with Bluetooth dongle. This PC acts as the gateway to the internet for the mobile. The mobile will host the client application which will connect to the server application in a hotspot environment and provide the mobile with internet access. In recent years, with the development of mobile communication and Mobile terminal, especially the release of Android smart phone platform has injected new vitality to the mobile space. Android is an open sourcing mobile operating system based on Linux which is a completely open and integrated platform for mobile devices. Android platform consists of the operating system, middleware and user interface and application software. Bluetooth technology is a mature short-range wireless communication technology. The working frequency band of Bluetooth does not need a license around the globe. The advantage of Bluetooth technology is reflected in the low price, easy to control and non-visual distance limitations. Bluetooth is an important feature of the smart phone, which is integrated into the Android platform, as the Android mobile network communication module. The Android system provides many Bluetooth APIs for developers to call The majority of the phone communicates with each at her generally through China Mobile or China Unicom gateway, which have to pay related costs. The purpose of the chat room which based the Bluetooth of android is connect phones into a local area network, then we can communicate with each other without any cost .This paper carry out a chat system via the API of the Bluetooth on the Android platform. Through the Bluetooth module, android phones can be divided into client and server and then the real-time chat between friends strangers can be accomplished.

II. LITERATURE REVIEW

The name "Bluetooth" and its logo are trademarked by the privately held trade association named the Bluetooth Special Interest Group (SIG). The name Bluetooth was a code name used by developers of this wireless technology. But as the time past name Bluetooth Stuck. 10th Century's Danish king Harald Bluetooth had been influential in uniting Scandinavian tribes in single kingdom after the war when the region was turn into parts. Now these days Bluetooth implication of Bluetooth does the same reunite different industries such as Computers with cell phones with single low power globally available short range radio frequencies named as Bluetooth The concept behind Bluetooth had its origins in 1994 when Ericsson began researching the idea of replacing cables connecting accessories to mobile phones and computers with wireless links. The actual history of Android starts when Google has had purchased and Android inc. in 2005. But the development did not start immediately. The actual progress on android platform starts when 2007 Open Handsets Alliance has announced the Android as Open Source platform and year later the Android SDK 1.0. In the same 2008 the G1 phone was produced by HTC and was retailed within the T-Mobile carrier. In the next two years came out 4 versions of Android. In 2010 there were at least 60 devices running android and it becomes second after Blackberry the best spread mobile platform. (Gargenta 2011, 3- 6). And hence developing the research and design of chatting application based on android Bluetooth.

III. OVERVIEW

Here we are using Bluetooth enabled Smart phone supporting windows application .This Smart phone incorporates a device discoverer which lists all the nearby Bluetooth enabled devices, out of which we can select any of the device to which

the key depression data is to be transmitted. At the client side with the help of a newly defined protocol we generate the text message to be sent the application program in this side converts the text message to the corresponding ASCII codes. The ASCII codes are given to the Bluetooth of the mobile which converts into the Bluetooth frequency signal. The ASCII code from the client side to the server side is transmitted by means of Bluetooth .At the server side we implement Bluetooth on system by means of a device called a Dongle, which is inserted to a USB port. This dongle contains a firmware (embedded software) which accepts the Bluetooth signal send to the system. And converts this signal to the USB data format. Through the universal serial bus (USB) which is accepted by the firmware of the dongle is passed to the system.

In this system we generate application software which gets data from USB port as input. In application software we implement a Parser which works according to the defined protocol and parses the incoming data and identify the corresponding command function of the ASCII code received. This application software executes the command in order to perform the specific operation.

IV. IMPLEMENTATION RESULTS

This research and design of chatting application using android Bluetooth contains the text messaging through Bluetooth between the two android smart phones. Following window result shows the server window containing issues like Send Message, Start server, Clear message and Close App.

Implementation 2: The Second window result is for the client window side which shows the connection with device properly means connection is established between both the android smart phones. Consisting of stat client, receive, clear message and close App. Some of which the functionalities are same as the server side.

Implementation 1: Start Server will Enable the Bluetooth on server side and active for the communication after scanning for the devices and choosing one of them for the communication. When server sends the message to client by entering into the text field and the pressing send Message button will send the above entered message to the client as shown in fig 4.3. Server can also receive message.

Start client will enable the Bluetooth on client side if not enable Receive will receive the message coming from the server side. Close The client receives the message as soon as the connection is established between the two devices. The client can also send message to the server or another device after the establishment of the connection. Bluetooth enables or provides the better improvement over the android devices. By receiving message from the server the similar connection can also be established within the same range. Area to be covered into the Bluetooth range is limited.

V. CONCLUSION

Bluetooth chatting is an innovative approach to the mobile world. This application shows use of Bluetooth in terms of chatting. Means persons can chat via Bluetooth. The main midlet has just a list which has two values server and client. By selecting one of these two values, the corresponding instance is created. Midlet is used to initialize the connection. It does following thing at here. First, it starts the application and search the Bluetooth device. It sends the signal to the server class. Second, it can run, pause and stop the application. Third, it shows alert using set Alert function on every changing. Server class goes active when it go signal from the midlet class. It sends the hello world string with the string to the other devices. Client class works to respond the other Bluetooth device server.

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